

Announcing

New Canadian Made Transmitting Tubes for Canadian Amateurs



T20

HIGH
FREQUENCY
TRIODE

Fil. 7.5 volts, 1.75 amp.

OUTPUT

At 750V, Class C, 40W.
At 800V, Class B,
70W (2t.)

Amplification Factor 20
AMATEUR NET \$3.25



TZ20

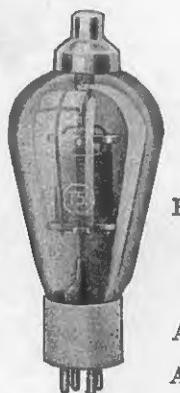
ZERO BIAS
TRIODE

Fil. 7.5 volts, 1.75 amp.

OUTPUT

At 800V, Class B,
70W (2t.)

Amplification Factor 62
AMATEUR NET \$3.25



T55

HIGH
FREQUENCY
TRIODE

Fil. 7.5 volts, 2.75 amp.

OUTPUT

At 1500V, Class C,
168W

Amplification Factor 20
AMATEUR NET \$10.15



809

HIGH
FREQUENCY
TRIODE

Fil. 6.3 volts, 2.5 amp.

OUTPUT

At 750V., Class C, 55W.
At 750V, Class B,
100W. (2t.)

Amplification Factor 50
AMATEUR NET \$3.75

SEE YOUR NEAREST JOBBER

MADE IN CANADA
BY

**CANADIAN
GENERAL ELECTRIC**
COMPANY LIMITED
Head Office-Toronto—Sales and Engineering Offices in Principal Cities

XTAL

devoted entirely to

the
amateur

1938

HERE IT IS, HAMS !!

Your filter condenser worries are over and you don't break the exchequer. Solar transmitting capacitors are economical, yet nothing has been spared to make these the finest units of their type on the market. Thoroughly oil impregnated, sealed against heat and moisture with sturdy metal containers of space saving size.

SOLAREX TRANSMITTING CAPACITORS



Oil Impregnated, Wax Filled TYPE X—RECTANGULAR CANS					
Cat. No.	Cap. Mfd.	D.C. Oper. Volts	D.C. Volts Flash Test	Size Inches	Net Price
X-101	1	1000	2000	3 x2 7/16x1 1/2	\$1.66
X-102	2	1000	2000	4 1/2x2 7/16x1 1/2	2.25
X-104	4	1000	2000	4 1/2x3 3/16x2 1/16	3.01
X-151	1	1500	3000	4 1/2x3 7/16x2 1/2	2.16
X-152	2	1500	3000	4 1/2x3 3/16x2 1/16	3.01
X-154	4	1500	3000	4 1/2x3 9/16x2 9/16	4.86
X-201	1	2000	4000	4 1/2x3 8/16x2 1/16	2.61
X-202	2	2000	4000	4 1/2x3 9/16x2 9/16	3.69
X-204	4	2000	4000	6 x8 9/16x2 9/16	6.99
X-301	1	3000	6000	6 x8 9/16x2 9/16	3.73
X-302	2	3000	6000	6 x4 1/4 x2 7/8	7.42

YES! We have the new Canadian model of National 81X's and 80X's in stock. These incorporate a power transformer and special filter for quiet 25 cycle operation. All models are universal 25-60 cycle operation Hydro approved.

Model 81X—Amateur band model covers the 10, 20, 40, 80, and 160 meter bands with 10" of dial scale on each band, complete with xtal filter, tubes and speaker chassis. Cash price, \$156.45. Deferred plan, \$36.45 down and 12 monthly payments of \$10.92.

Model 80X—General coverage model with a range from 30 M.C. to 550 K.C. on four bands, complete with xtal filter, tubes and speaker chassis. Cash price, \$156.45. Deferred plan, \$36.45 down and 12 monthly payments of \$10.92.

IMMEDIATE DELIVERY!!

NEW TAYLOR TUBE RELEASES IN STOCK!!

T-40 Carbon plate general purpose triode Net \$5.10.

TZ-40 Carbon plate Zero bias triode Net \$5.10.

SEE THE NEW GENERAL ELECTRIC TRANSMITTING TUBES.

Have you our 1938 catalogue? Complete listings of standard lines, special bargains. Get your copy now.

A AND A RADIO

363 Richmond Street
London, Ontario
Phone MEtalfe 4636

101 Queen Street West
Toronto, Ontario
Phone ADelaide 1312



XTAL

PUBLISHED MONTHLY

BY

THE VE OPERATORS' ASSOCIATION

AT

106 JARVIS STREET

TORONTO, ONTARIO, CANADA

ESTD 1938 NOV 21



The VE Operators' Association

In unity there is strength and, by the same token, in separation there is weakness. Analogously, in organization there is a measure of protection, but in individualism there is exposure to all the potentialities of restriction.

Perhaps, from an organization point of view, there is no more greatly separated body of individuals than Canadian hams—a fact which makes us exceedingly weak and extremely vulnerable.

An individual who recognizes his weakness, and acts accordingly, becomes a strength unto himself—a procedure which may, with like effect, be applied to groups. In the case of Canadian amateurs, a few discerning souls have recognized our weakness and have instituted steps to correct the position which we occupy, or as it might more aptly be expressed—the position we do not occupy.

A new organization has taken a foothold in our midst. After some months of cogitating, head rubbing and conferences the VE Operators' Association was born, and is now a real, live, enthusiastic order of Canadian amateur radio operators. A comparative infant, it is true, but a very lusty one.

It is the purpose and earnest endeavour of the new Association to bring to all amateur radio operators of the Dominion the unity and co-ordination which is so vitally necessary to our future well-being, and which is so woefully lacking to-day. In a word, to create the strength that will come from unity.

Reader, have you ever analyzed the true position of amateur radio in this country of ours? If not, we commend it to you as being a subject worthy of your deliberation. Give your thoughts

some latitude, and allow your imagination reasonable sway. Dwell for a time on the ramifications which suggest themselves to you, and after you have given our hobby the benefit of your study, we think you will agree with us that it is high time something was done about it.

Let us suppose, for a minute, that some appointed agency were to recommend a curtailment of the privileges we now enjoy by restricting hours of operation, or by bringing pressure to bear in an effort to influence the Government to adopt a policy of withdrawing certain frequencies from amateur use. What would be our position in such a contingency? Would we not be flying hither and yon like the proverbial lost sheep? Perhaps we would endeavor to have a petition signed—a process which, to say the least, would be a weak and ineffectual sally. Furthermore, it would consume much time, and would probably be of little material benefit when completed. It would be a case of the drowning man and the straw.

The line of action we would take in the interest of our self-preservation in such an emergency is a matter for speculation, but it can definitely be assumed that we would be in a state of some disorder and much chaos—all because of the fact that we are not organized. Our state of confusion would accentuate our lack of foresight, and would establish us as being political striplings.

That is hypothetical, but not impossible, and since it is within the realm of possibility, it is discreet to organize against the eventuality—which is, precisely, the object of the VE Operators' Association. It is the recognition of our

weakness, from which will come our strength.

The press recently carried a story on Canadian amateur radio, in the course of which it was stated that there are in the neighborhood of 4,500 Hams in our country. Now, each amateur station represents an expenditure of money, the extent of which is determined by choice, or by financial ability, so that, in the aggregate, we are hobbyists who have spent countless thousands of dollars in the pursuit of our pleasure. We shall continue to do so, consequently we should at all times be giving consideration to our present and future solidarity. It should be a matter of great moment to us to ensure that we have an organization which will be ever watchful of our rights, and which will constantly guard against the possibility of our investment being jeopardized. We should strenuously endeavour to band ourselves together to the end that we shall enjoy the respect of the public and officialdom alike. We shall never be in a position to dictate, nor do we wish to be, but we should, and must, have an Association which, as the mouthpiece of Canadian amateur radio, will be accorded that status by the Government, and respected as being cooperative but strong withal.

The prime movers of the VE Operators' Association are striving to build an organization such as is believed to have been anticipated by the American Radio Relay League when there was incorporated in its constitution, provision for the creation of a Canadian Association. By that constitutional provision, it may be assumed that the A.R.R.L. was of the opinion that, ultimately, it would be necessary to have a Canadian organization. We believe that day has arrived.

The VE Operators' Association, however, is not cutting adrift from the League, but on the contrary is affiliated with it. There are many things which amateurs of Canada have in common with our American cousins, and those interests will be well and adequately served by our affiliation. In national matters, however, we should be served by a Canadian Association. There does not seem to be room for a refutation of that statement. A few moments reflec-

tion will make it abundantly clear and definitely apparent that it is imperatively necessary.

In the event that it should at some time be necessary to submit to the Government a brief on behalf of Canadian hams, and the duty were performed by the A.R.R.L., it is possible that the League would be regarded as an organization having an international radio point of view, amongst whose members are to be found, incidentally, a number of Canadians. Were the submission to be made by our own Association we would enjoy the distinction and advantage of being exclusively Canadian, representing Canadian citizens on Canadian matters before Canadian officials. That sounds sensible, doesn't it? We think so.

To be more concrete, if the Government should decide to increase our annual licence fee, would an organization of another country be the proper medium to present an argument on a strictly Canadian matter such as that? Or should an internal problem of that nature fall to the lot of Canadians to deal with? Unquestionably, it would be highly improper for an organization of another country to take any part in our fiscal affairs, and it is a foregone conclusion that they would not attempt to do so.

The problem, then, falls to us. Are we in a position to accept it? Have we been giving consideration to our own interests so that, at a moment's notice, an organization springs into action? The answer is an emphatic NO—a thousand times NO. The logical sequel to that admission is a Canadian Association.

In the interest of a thorough understanding, it is expedient to repeat that the members of the new Association have no fault to find with the A.R.R.L. On the contrary, it is conceded that the League has carved for itself a place in the history of amateur radio which will last as long as time itself. The VE Operators' Association is strong in its commendation of the untiring work and accomplishments of the League—that is one of the reasons for our affiliation—but the League is essentially American and, therefore, its scope is not sufficient within the boundaries of Canada in the

(continued on page 10)

Canadian Tire Corporation Limited

837 - 847 YONGE ST., TORONTO

Canada's Largest Amateur Radio House

CALL LETTER LAPEL PINS

VE3II

Nearly all hams wear this distinctive lapel pin. Identify yourself at ham gatherings by ordering yours. Size as shown. Beautifully finished in black and silver colour. Net **49¢**

CRYSTALS

Hi-Power crystals that are guaranteed to satisfy or your money refunded. Lo-Drift cut with plenty of output.

40 Meters	52.65
80 Meters	\$1.49

NEW QSL CARDS

Entirely new attractive QSL cards. Hams from Vancouver to Halifax buy their QSL's from us. Your request for samples will bring an immediate reply. Per 100 **\$1.35**

NEW TAYLOR TUBES

Taylor is again to the front with the new T40 and TZ40. Write for details on this wonder tube. Complete stock of Taylor tubes on hand at all times.

T40	\$ 5.10
TZ40	5.10
T20	3.25
TZ20	3.25

New Taylor Handbook Available. Write for your copy

SPECIAL I.F. TRANSFORMER

A special value in a standard 456KC I.F. transformer that will only last as long as our stock holds out. Highly selective and double-tuned. Size 1 1/8 sq. by 3 3/4. Net **59¢**

NATIONAL RECEIVERS

HRO Receiver	2 1/2 or 6 Volt	\$267.75
HRO Junior	2 1/2 or 6 Volt	160.92
NC80X Receiver	complete	156.45
NC81X Receiver	complete	156.43
NC100 Receiver	complete	158.80
NC100X Receiver	complete	212.32
SW3 Receiver	DC or AC	31.29

Aerovox Transmitting Condensers

Aerovox "Hyvol" oil filled condensers need no introduction. Highest quality throughout and absolutely guaranteed.

2 Mfd	1000 Volt	\$3.00
4 Mfd	1000 Volt	4.35
1 Mfd	1500 Volt	2.47
2 Mfd	1500 Volt	3.50
1 Mfd	2000 Volt	3.20
2 Mfd.	2000 Volt	4.25

POWER TRANSFORMERS

High quality transformers which quantity buying enables us to offer you these extremely low prices:

No. 449	275 Volts @ 85 MA. D.C.	
	5 Volts @ 2 Amps.	
	2.5 Volts @ 8 Amps C.T.	
		Net \$2.98
No. 124	300 Volts @ 70 MA. D.C.	
	5 Volts @ 2 Amps.	
	6.3 Volts @ 3 Amps C.T.	
		Net \$2.98

R.F. CHOKE

A special quantity purchase enables us to offer you a high quality 2.5 Millihenry R.F. Choke at a large saving. This choke equal to many selling at twice our price.

SPECIAL	18¢
---------	------------

Jefferson Amplifiers and Modulator Diagrams

A 22 page bulletin on sound amplifiers and modulation systems. A wealth of information for the amateur or sound man. Write for free copy or request with your next order.

THE SPEEDIEST SERVICE ON THE CONTINENT

Canada-U.S. Contest, April 14, 15, 16, 17 and 18

What a glorious week-end of operating that will be—102 hours for renewing old friendships. Records of previous years should be topped this year. Last year VE3GT won a lovely trophy fourteen inches tall, which was donated by Canadian Marconi Co. This year, the Canadian General Electric Co. is donating a cup to go to the highest scoring Canadian station. Other Canadian manufacturers are donating prizes in equipment to go to the next three or four highest stations. Canadian General Manager Alex. Reid, VE2BE, has heartily endorsed this year's contest, which is being sponsored by the Section Communications Manager of Ontario, Fred H. B. Saxon, VE3SG. Logs should be mailed to him at 302 Lee Ave., Toronto, Ontario, not later than midnight April 30, 1938.

The Contest Rules

Dates: Starts—Thursday, April 14th, 6 p.m. local time. Ends—Monday, April 18th, midnight, local time.

Duration: 102 hours.

Frequency: Any or all amateur bands may be used.

Object: Each VE will work as many W stations as possible in as many United States A.R.R.L. sections (see list page 6, *QST*) as possible. Each W will work as many VE stations in as many VE sections as possible.

Scoring: The same log form as used for last year's contest will be used. Message preambles will be exchanged. Each preamble sent will count one point and each one received will count one point. It is not necessary for preambles to be exchanged BOTH ways before a contact may count, but one must be sent or received before credit is claimed. All preambles must be handled under approved A.R.R.L. procedure. Mark each new section as it is worked. The "check" portion of the preamble will be the RST report of the station worked. Sample preamble: Nr 1 VE3GT ck 579 Toronto, Ont. 6.02p Apr. 14. W stations multiply number of points by the number of VE sections worked and multiply the final score by nine, there being nine times as many U.S.A. sections. VE stations multiply the number of points by the number of U.S.A. A.R.R.L. sections worked.

Power and Operator Handicap

Each station having less than 100 watts input to the final stage shall multiply the score by 1½. Where more than one operator normally operates a station the

total score of the station shall be accepted, provided a certificate is attached to the log giving the names and call signs of the operators making the score.

Operator's Certificate

The following certificate is requested on each log submitted:

"I hereby state that in this contest I have not operated my transmitter outside any of the frequency bands specified on my station license, and also that the score and points set forth in the above summary are correct and true."

Prizes

A.R.R.L. Certificates of Merit will be awarded to the leader in each of the 70 A.R.R.L. sections in the U.S.A. (and possessions) and Canada. The sponsor will not be in the running for a prize, but will be on the air to give points to aid W stations in obtaining a higher score.

Prizes for VE operators are as follows:

First Prize—Cup, by Canadian General Electric Co., Toronto.

Second Prize—RCA 804, by Canadian Marconi Co., Montreal.

Third Prize—100 mmfd transmitting condenser No. 9610, by Hammond Mfg. Co., Guelph, Ont.

Fourth Prize—RCA 809, by Canadian Westinghouse Co., Toronto.

Fifth Prize—RCA 809, by Canadian Westinghouse Co., Toronto.

23rd Prize—One KBX Crystal, by VE Operators' Association. This crystal will be ground to the winner's desired frequency. By 23rd prize we mean the VE who ranks 23rd in final results.

NOTICE

The Wireless Association of Ontario and the VE Operators' Association jointly extend an invitation to all amateurs—or hams-to-be—to attend a meeting in Room 21, Electrical Bldg., University of Toronto, on Tuesday, April 12th, at 8 p.m. sharp, when Mr. Byron Goodman, of the A.R.R.L., will be the guest speaker. It is not very often we are favoured by having a league official with us, so let us all be on hand.

Everybody Welcome!!

An Idea Returns

In bringing XTAL to Canadian amateur radio operators, we do so with justifiable pride and pleasure.

The consummation of an idea, the attainment of an objective, invariably is a source of pleasant satisfaction. It is well that it is so, for were it otherwise there would be little to encourage the vigorous pursuit of an idea in its development from a state of incipience to actual realization.

That is the ideal—the truly genuine ham point of view. It is the spirit of service—something which hamdom the world over is every ready to offer the public. It is the amateur radio psychology which entirely disregards the mercenary aspect which all too frequently seems to be the motive behind the thought and energy given to the development of an idea.

Fortunately, not all humans use a monetary yardstick in determining the extent of application to be applied to giving physical proportions to a dream. Even in this extremely materialistic age, one does on occasion meet an individual who thinks in terms of benefit to others, and who is delightfully oblivious to considerations of financial gain which might accrue from the materialization of a vision.

When such people are encountered, it is well to linger and bask in the sunshine of their personalities. The time spent in such company will be productive of thrilling pleasure, and there is more than an even chance that we shall capture something of the spirit which they are sure to radiate. That is as it should be.

It was in just such thoughts of service that XTAL was conceived and first presented to Ontario and Quebec amateurs. That was three years ago, and was the result of a conclusion to the effect that amateurs of the Dominion were entitled to have—nay, required—an exclusively Canadian journal devoted to the field of amateur radio.

The idea intrigued those who conceived it. The more they considered it, the more apparent became the necessity of the magazine, so it was decided to proceed with formative plans. Much thought and an incredible amount of work was given to the enterprise. It soon became obvious that the production of a magazine was a task of no mean magnitude. Editorial matter had to be prepared, arrangements with the printer were necessary, adver-

tisers had to be contacted, and a whole myriad of other details required careful and ever close attention. Time, to XTAL founders, was something of which they did not have an abundance, and the constant arising of unforeseen details made serious demands on such time as was available.

Nevertheless, in spite of many difficulties, setbacks and occasional disappointments, XTAL became a fact. The enthusiasm with which it was acclaimed, the messages of congratulation and expression of wishes for the continued success of the journalistic infant were gratifying, and to XTAL producers seemed more than reasonable recompense for the laborious task of bringing the first issue off the press.

But even dynamic individuals have their limitations, and the creators of XTAL were no exception. They came face to face with a realization of the fact that to continue giving to their brain-child the attention to which it was entitled would be beyond their limits—that is, if they believed in the survival of the fittest, and had any concern for the state of their fitness. The cordial reception accorded XTAL, and the field it was endeavouring to serve, imposed rigid demands of quality which, to maintain and enhance, presented a difficulty of insurmountable dimensions. The amount of thought, energy and time given to the affairs of XTAL trespassed on similar qualities which properly belonged to the business of earning a living along entirely different lines.

The conclusion to suspend publication was not an easy one to make, but it was inevitable. It was a question of that or, in the alternative, giving up other business and devoting full time to XTAL. That course would be contrary to the original thought, and would introduce strict commercialism, and so it was dismissed without consideration. The originators being profitably engaged in other fields of endeavour, and not being able to discover on the amateur radio horizon any evidence of supporting influence willing to assume part of publication responsibility (which was of a physical nature, and never at any time financial) XTAL, with its future of promise, was allowed to lapse into silence.

Any idea, if allowed to germinate, and if toyed with sufficiently, will expand
(continued on page 10)

"Rubber Crystals"

By VE3IJ*

Undoubtedly all amateurs have heard, holder. We now have a holder that is no directly or indirectly, of these so-called different from any other type with the rubber crystals, and undoubtedly many amateurs have desired to have (the blessing or the curse, whichever you care to call it) the benefit of one of these variable frequency controls, that is such a great aid in defeating severe QRM.

To date, however, the average amateur has been more or less deterred in this desire through the comparatively prohibitive cost of this type of crystal as they are at present marketed. Ten dollars to the average amateur is quite a deterrent to his ambitions, and this is probably the reason that many more of these crystals are not being used. This article should, therefore, find favour with the majority of hams who have noble ambitions but sparse pocketbooks, and while the finished article may not appear as businesslike as the manufacturer can produce, the amateur can well be satisfied with it insofar as greater variations can be produced in frequency coverage.

For the benefit of the uninitiated, a rubber crystal is simply a common convex type of crystal, the frequency of which is varied through a fairly wide range by the means of an adjustable air-gap in the holder. The average manufacturer limits himself to the AT cut crystal for this purpose, thereby bringing up the initial cost of the unit; then they proceed to build an expensive type adjustable air-gap holder, which further increases the price of the article. A cheap Y cut crystal is similarly convex and lends itself ideally to this purpose. Furthermore, the adjustable air-gap in the holder is very simple, and can be easily built by any amateur with very little difficulty; it is surprisingly simple and need entail only a few minutes' work.

The easiest way this can be described is by taking one of the old square type of holder, where the banana plugs are brought out at the side. Simply take the top plate out of this holder and remove the present spring that exerts the pressure on it. Procure a piece of spring phosphor bronze sheet, slightly narrower than the width of the top plate and slightly longer, and solder it to the top of the top plate so that it will have sufficient phosphor spring projecting over one edge so that the one edge can normally rest on top of the bakelite side of the

A small threaded screw through the bakelite cover of the holder, which will exert this pressure, is ideal, and the amateur now has a rubber crystal holder.

While the use of an AT cut crystal in this type holder is very nice, it defeats its own purpose insofar that due to the frequency being variable, any variation due to temperature, if undesired, can be taken care of in the adjustment, so that the common Y cut crystal becomes ideally suited to the purpose, the only limitation being that either the holder must be made to fit the size of the crystal exactly or else the crystal must be ground to a size suitable to fit the holder. If the crystal is at all smaller than the inside of the holder the top plate in this process of being adjusted will naturally short circuit on to the bottom plate.

Such a crystal adjusted has been actually found to give a variation of as much as, in some cases, 15 kc on the fundamental frequency, and found to oscillate very satisfactorily in between the limits of this variation.

In ordering a crystal for this purpose the amateur should order the lowest frequency at which he desires to operate, as this is the normal operating frequency of the crystal, and as the air gap is increased the frequency of the crystal is increased.

In conclusion, let me add a word to the wise, where wisdom is desired. A good number of cases of off-band operation are caused by amateur owners of rubber crystals who cannot withhold their desire to operate at just a little lower frequency than the other chap.

*K. Blevis Labs.

**CEMENT?....**

WHY? Hams are an inquisitive bunch and are probably wondering why IRC Special Cement is used for coating Power Wire Wound Resistors.

We use it because its coarse finish dissipates heat and does not deteriorate under any reasonable over-load. Remember that, "to radiate heat best, a body must be *dark* in color and *rough* in finish." A light color or glazed finish will run a higher temperature for the same heat dissipation. (Keep that in mind when you "pot" that new transformer you are winding; put it in a dull black case — *not* a shiny chromium can.)

Most glazed coatings contain ingredients which are chemically active in the presence of humidity and require high firing temperatures to harden them. Both of these are harmful to a resistor.

It is an obvious fact that any coil, no matter whether it be an I.F. Coil or a 200 Watt Resistor, should be coated with a material which protects yet never attacks the wire chemically. IRC cement coating does this particularly well under severe conditions, because it is free from active salts which combine with the moisture in the air to corrode the resistance wire.



1. It toughens the unit, bonding the tube, wire and coat together without making them brittle or setting up unusual strain.
2. It makes it practical to die-cast a terminal or lead wire in position right around the tube—a real he-man joint.
3. It leaves the terminals with their proper temper, not dead soft and easily broken.
4. It prevents those pin-holes one often sees in other coatings.

Why buy a resistor that's had most of the life baked out of it already. IRC cement coat isn't much on looks, but it's the best thing we've found yet for the job it has to do.



By immersing the whole unit in the liquid coating, and *agitating* it while immersed, the cement penetrates to the tiny spaces around the wire and terminals.

It is then treated with live steam for many hours. This cures and hardens the coating without subjecting it to the firing temperatures which are necessary in putting a glaze finish on most other coatings.

This *low temperature* processing has advantages:

1. It toughens the unit, bonding the tube, wire and coat together without making them brittle or setting up unusual strain.
2. It makes it practical to die-cast a terminal or lead wire in position right around the tube—a real he-man joint.
3. It leaves the terminals with their proper temper, not dead soft and easily broken.
4. It prevents those pin-holes one often sees in other coatings.

**INTERNATIONAL RESISTANCE COMPANY
LIMITED**

187 Duchess Street

-:-

Toronto, Ont.

VE OPERATORS' ASSOCIATION

(continued from page 4)

matter of purely national considerations. Our Government is not elected by the membership of the American Radio Relay League, but a Canadian Association will have voting Canadians as its members. Ponder that, reader.

By our affiliation, we concede the League to be the proper agency for international problems, and the representative of Canadian and American amateurs at world conferences. So completely is that the point of view of the VE Operators' Association that we urge every amateur to be a member of the American Radio Relay League.

Of the new Association, it can be said that plans are going forward to provide for the regular broadcast of bulletins giving, amongst other things, the doings of the Association. In addition to those broadcasts, provision is being made to have ample coverage on specified nights when you will have the opportunity of contacting certain stations from whom any point of information may be had. To express it succinctly, it is YOUR Association, and whether you live in Halifax, Toronto, Vancouver or any intermediate point, you will be able to get all the information you desire at least once each month.

Friends, Canadian amateur radio stands on the threshold of good days ahead, and of a swelling of our ranks. Undoubtedly, the VE Operators' Association will enhance the pleasure we shall receive from the operation of our stations, so get behind us and boost with all your might. You have never put your shoulder to a more worthy wheel.

Membership dues have been made nominal — one dollar annually — which includes a year's subscription to XTAL. Membership is within the reach of every amateur, and every ham needs the VE Operators' Association. So send along your membership to Mr. S. B. Trainer, Secretary-Treasurer of the VE Operators' Association, 106 Jarvis Street, Toronto (VE3GT). Also direct any inquiries to him and he will be more than delighted to give you a full reply. Letters

AN IDEA RETURNS

(continued from page 7)

to the point where it far exceeds its original nucleus. That, precisely, is what happened to XTAL during the period it was conspicuous by its absence. The fathers of the magazine took stock of amateur radio conditions in Canada, and realized that hams are a pretty decent sector of humanity who have spent countless thousands of dollars in the pursuit of their hobby. Also, they were not unmindful of the cordial fraternalism exemplified by the eager and enthusiastic reception given to XTAL. That was food for thought.

The outcome is that XTAL comes to you again, but this time under a production plan which ensures its continuance. It has been adopted by the VE Operators' Association, but behind it—substantially so—is to be found the former management. The new Association, by virtue of its organization, has been able to allocate the many duties attendant upon XTAL publication in such a manner that there should be a mechanical precision in the preparation of the journal. No difficulties are anticipated and, therefore, XTAL looks forward to enjoying a very prominent place in your radio life.

Of the VE Operators' Association, details are given elsewhere in this issue, but suffice it to say at this time that both XTAL and the new Association were conceived in the spirit of service to Canadian amateur radio operators. Such financial gain—if any—accruing from the publication of XTAL will go directly to the treasury of the VE Operators' Association, and will be used for either the purposes of the magazine or of the Association.

It is our hope that we shall make of XTAL precisely what you would have it be. It is YOUR magazine—accept it as such. Take an interest in it, and send along your criticisms, suggestions, news items, or anything that you think would make it more interesting. We have endeavoured to anticipate your tastes. Perhaps we have missed the mark, but we shall never know if you do not tell us.

The preparation of this issue has been a pleasure. We hope you like it.

for publication in XTAL should be sent to the same address.

Your reactions are awaited with deep interest.

Hammond Announces = = =

UNIVERSAL PLATE TRANSFORMERS

Finest construction, mounted in heavy plated cast housings with Bakelite terminal plate and new screw type terminals.

Note the many output voltages — Rectified D.C. with Swinging Choke

Type 757

1000 volts	250 ma.	1500 volts	250 ma.
800 "	250 ma.	1200 "	250 ma.
750 "	250 ma.	1125 "	250 ma.
600 "	250 ma.	900 "	250 ma.
500 "	500 ma.	750 "	500 ma.
450 "	250 ma.	675 "	250 ma.
375 "	500 ma.	500 "	500 ma.
300 "	200 ma. & 500 volts 300 ma.	450 "	200 ma. & 750 volts 300 ma.
225 "	200 ma. & 375 volts 300 ma.	335 "	200 ma. & 500 volts 300 ma.

60 Cycle, Net Weight 22 lbs.

\$12.45 NET

25 Cycle, Net Weight 31 lbs.

\$16.50 NET

1500 volts	250 ma.	60 Cycle, Net Weight 31 lbs.	25 Cycle, Net Weight 51 lbs.
1200 "	250 ma.	\$16.50 NET	\$22.80 NET
1125 "	250 ma.		
900 "	250 ma.		
750 "	500 ma.		
675 "	250 ma.		
500 "	500 ma.		
450 "	200 ma. & 750 volts 300 ma.		
335 "	200 ma. & 500 volts 300 ma.		

\$12.45 NET

\$16.50 NET

\$16.50 NET

\$22.80 NET

25 Cycle, Net Weight 51 lbs.

\$22.80 NET

"Pse QSL" -- And Then . . ?

Once upon a time a man stood on Brooklyn bridge and offered five-dollar gold pieces at a dollar each, and the passersby muttered "Fake" and went on their way. And the next day, when they read in the newspaper that there was no fake, they upbraided the man instead of themselves for passing up such a bargain.

Later, five VE's offered an hour or two of their time daily that fellow-hams might receive dx cards which, because of expense and other reasons, they might not otherwise receive. They asked that a stamped, self-addressed envelope be sent to them, and they would do the rest. And the VE hams sat and twiddled their thumbs, and cussed the dx stations who had promised QSL's. And to-day there are as many as 40 cards for some of the stations listed below.

Addresses of QSL managers are as follows:

VE1—J. E. Roue, VE1FB, 84 Spring Garden Rd., Halifax, N.S.

VE2—C. W. Skarstedt, VE2DR, 236 Elm Ave., Westmount, P.Q.

VE3—Bert Knowles, VE3QB, Lanark, Ont.

VE4—George Behrends, VE4RO, 186 Oakdean Blvd., St. James, Winnipeg, Man.

VE5—H. R. Hough, VE5HR, 1785 First St., Victoria, B.C.

VE5HR succeeds VE5EC, who has served since inception of the QSL bureau. Thanks, 5EC; best of luck, 5HR.

VE1—AB, AF, AH, AI, AJ, AM, AO, AR, AV, AZ, BA, BB, BD, BE, BG, BH, BI, BL, BN, BO, BQ, BR, BT, BU, BW, BX, BZ, CA, CB, CC, CE, CF, CH, CM, CN, CQ, CT, DC, DF, DI, DK, DP, DR, DS, DT, DX, DY, ED, EH, EL, EQ, ER, EW, EY, EZ, FI, FJ, FK, FM, FP, FX, GA, GC, GD, GE, GF, GH, GI, GJ, GK, GO, GP, GS, GX, HB, HC, HI, HM, HP, HQ, HS, HT, HU, HW, IA, IB, ID, IE, IF, IJ, IN, IO, IP, IS, IT, IV, IW, JD, JE, JL, JJ, JP, JQ, JR, JV, KA, KD, KE, KF, KI, KL, KM, KQ, KX, KZ, LA, LB, LC, LF, LH, LO, LR, MA, MH, MN, MQ, MU, MV.

VE3—AA, AG, AI, AK, AW, AX, AY, BB, BT, BU, CC, CF, CI, CX, DB, DC, DF, DG, DM, DO, DP, DQ, DR, DX, EA, EC, EE, EL, EK, EL, ES, ET, EX, FD, FE, FI, FM, FU, FV, GB, GF, GI, GN, GP, GU, GX, HC, HE, HI, HJ, HK, HM, HN, HO, HQ, HT, HX, ID, IF, IG, IH, IO, IV, IY, JC, JD, JH, JK, JP, JQ, JV, KA, KD, KG, KH, KM, KV, KW, XX,

KY, LA, LM, LN, LU, LX, MH, MI, MU, MY, NA, NB, NE, NG, NH, NO, OA, OB, OE, OG, OH, OI, OK, OL, OM, ON, OS, OW, OX, OZ, PK, PU, PZ, QE, QC, QI, QM, QN, QP, QR, QT, QU, QY, RA, RE, RO, RX, SF, SI, SL, SP, SS, SV, SY, SZ, TG, TI, TQ, TV, TZ, UD, UG, UL, UM, US, UW, VC, VG, VH, VT, VW, VZ, WD, WE, WG, WI, WJ, WM, WN, WU, WV, WY, WZ, XG, XP, XX, XY, YD, YH, YI, YN, YP, YQ, YT, ZK, ZM, ZO, ZU, ZV, AAD, AAL, AAP, ABC, ABF, ABH, ABT, ABU, ABY, ACF, ACG, ACH, ACK, ACN, ACP, ACS, ACT, ADE, ADG, ADH, ADL, ADM, ADT, ADW, ADZ, AEM, AEP, AEQ, AES, AFB, AFD, AFK, AGB, AGG, AGK, AGM, AGQ, AGS, AGZ, AHA, AHE, AHG, AHL, AHN, AJB, AJK, AKC, AKL, AKR, AKX, AKY, ALR, ALS, ALT, ALU, ALY, AMA, AMG, AMN, AMP, AMS, AMZ, AND, ANF, ANN, ANP, ANX, AOL, AOO, APF, API, APK, APM, AQC, ARQ, ART.

VE4—AA, AAG, AAH, AAO, AAT, AAX, AB, ABM, ABS, ABZ, AC, ACA, ACH, AC, ACR, ACU, ACW, ACZ, AD, ADG, ADD, ADH, ADZ, AE, AEA, AED, AEI, AEO, AEP, AET, AEU, AEV, AF, AFB, AG, AGG, AGP, AGS, AGT, AGU, AGZ, AHD, AHH, AI, AJ, AJ, AJP, AK, AKB, AM, AO, AQ, AU, AY, BC, BD, BE, BF, BJ, BO, BS, BU, BY, CC, CD, CF, CI, CK, CO, CP, CS, CU, CV, CZ, DA, DE, DF, DG, DH, DN, DP, DX, EA, EF, EG, EH, EL, EF, ER, EU, EV, ET, EV, EZ, FH, FJ, FK, FL, FN, GA, GB, GF, GI, GM, GP, GO, GS, GT, GU, GV, GX, GZ, HC, HF, HI, HL, HR, HS, HT, HU, HZ, IA, IG, IK, IQ, JE, JF, JG, JH, JJ, JN, JO, JQ, JR, JT, JY, JZ, KA, KB, KF, KI, KK, KO, KS, KA, LB, LD, LJ, LM, LO, LS, LT, LU, LV, MD, MG, MJ, ML, MN, MO, MY, MZ, NA, ND, NE, NF, NO, NY, NZ, OB, OE, OF, OG, OH, OO, OT, PF, PL, PN, PO, PQ, PV, PW, QA, QE, QH, QI, QL, QU, RF, RK, RM, RQ, RX, SG, SK, SP, SU, SV, SX, SY, SZ, TA, TB, TG, TR, TS, TV, TW, TX, UD, UJ, UP, UQ, UY, VC, VH, VN, VO, VR, VS, VZ, WK, WN, WQ, WV, WZ, XC, XG, XL, XM, XO, XP, XT, XX, XZ, YC, YK, YM, YQ, YW, YY, ZB, ZL, ZQ, ZR, ZT, ZX, ZY.

"Short waves shoot upwards, hitting the heavy side of the atmosphere, and are reflected back to the ground." — Toronto Star, March 21.

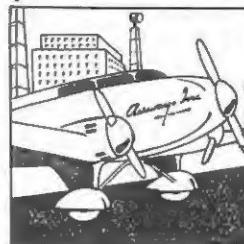
Why is the heavy side on top?

Make Your Hobby Pay!**Be a Commercial Radio Operator**

YOU AMATEURS WHO ARE SO KEEN ON RADIO — Why not make it your life work? Commercial Operators are in demand right now. Get your Commercial Certificate and become a ship, land or airport operator.

Radio College of Canada has been unusually successful in training operators. Its high quality Course has enabled graduates of the year 1937 to make connections with such outstanding organizations as:

Marconi International, England; Federal Government (Dept. of Transport, Radio Division); Ontario Provincial Government, Forestry Dept.; Radio Branch, McKay Communications, Inc.; Royal Canadian Mounted Police; Skyway Express; American Air Lines Inc.; Ontario Airways; Pan American Airways; S.S. Strathmore, to Australia; S.S. Tainui, to New Zealand; Duchess of Bedford, to West Indies; Dept. of Transport, East Coast Island Radio Station; S.S. Dilwara, to the Far East; etc.



Full Resident, or Resident-plus-Home Study Plans available.

Next Resident Class starts April 11th. Write or wire for particulars to Communications Department,

Radio College of Canada

Established 1928 : Toronto, Ont.

TRANSMITTING TUBE SPECIAL

1 RCA 838	\$19.50	1 R.C.A. 203A	\$12.50
1 RCA 807	4.50	1 Slightly Used 830	6.50
TZ20 - T20	3.25	2 New 100TL's	each 18.90

MICROPHONE SPECIALS

2 N.E. 600A - DB Mikes	\$15.00
New-American MK2 Dynamic	16.95
Nickel Mike Floor Stands	4.95
R.C.A. Dynamic Mike	22.50

JOHNSON Q AERIAL KITS

10 Meters \$6.25 - 20 Meters \$8.90

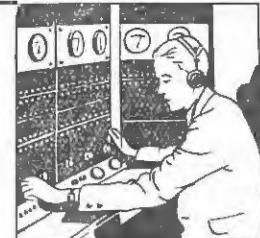
RADIO TRADE SUPPLY CO., LIMITED

587 YONGE STREET, TORONTO, ONT. RA. 1146-7

**SASKATCHEWAN ACTIVITIES
S.C.M.—VE4EL**

Fellow Amateurs: This will, I think, be my last report as your S.C.M. I have received a promotion in the service and have been asked to transfer for duty to Winnipeg by April 1st. I want to thank all in the section for their co-operation during the last six years and hope that you will choose a good man to fill my position. Knowing personally, as I do,

more than 50% of the licensed amateurs in the Province, moving out of personal touch with them to another province means more than can be said in a few words. However, I hope to still keep in touch with them by radio. VE4LY keeps in touch with the gang daily at 1 p.m., looks for more skeds and gets fine reports from the VE5's. 4ACR reports air conditions bad. Traffic: VE4CM 41, ACR 12, EL 6.



Station Activities

QUEBEC SECTION

S.C.M.—VE2EE

Your SCM has to apologize for his inability to compile news for this column last month, this was due to pressure of business which took him away from the city. The CW-DX Tests are over and the Phone Tests are now on; judging from the number of the gang I hear being called, the competition is keen.... those active include, EW, AA, FK, HP, HG, HY, CX, CP, BO, LV, ID and EE. The CW gang were well represented by EW, KS, AX, AA, HP, HG, CR, BV, DR and EE. Conditions have not been good and, consequently, I predict small scores; DR has increased his vocabulary in getting his rig down to ten meters; CR is experimenting with an inside beam; KM is now operating 14mc phone; HG pounded brass 15 consecutive hours during the Tests, and claims nine G's in one hour during the B.E.R.U. Tests; DN is on with increased power; OK is active on 3.5 mc; CV is visiting Quebec and Montreal hams; the Tri-Colour Net has a new outlet in Kingston, VE3AQY. Members of this Net desire to own their indebtedness to LO on the Canadian Trunk for his ever ready co-operation; JY visited HH2B during his holiday trip in Haiti; Quebec Radio Club held their annual dance on the 26th Feb.; Mrs HL is now a member of the Club. Your SCM wishes to thank JB and AC of Thetford Mines for their kindness during his stay in that location, also the Quebec gang for their great reception, merci mes amis. New hams in Quebec are HB, OF and OE; CA has been getting great DX on ten, worked VU2CQ with R7 both ways, phone, fb; GA worked a juicy one on 14mc, 17AA in Ethiopia; BN has been having trouble with his receiver; OB has also been tinkering around a superhet; LV has worked his first G on phone; AR has been heard on the air with a glorious yl's voice at the mike; DM was in hospital after an accident with two railway cars, is up and around again; DQ has taken down that nice vertical, thinking of a beam; EU turns in a traffic total this month; GC is operating 14mc phone; HM has been heard again after a prolonged absence on the band; GK has been visiting Toronto; ID has rebuilt his whole rig, looks swell; FE becomes a Benedict in the very near future, congrats Greg; VE2CP at McGill University is on the air again, the leading lights being KX, IN, JZ and Ollie. By Goodman W1JPE from Headquarters

visited Montreal and was guest of the M.A.R.C.; IO has returned from the Land of the G's, Harry saw a great many hams while over there; xVE2CH is still in England and is getting the urge to pound brass again, asks to be remembered to all the gang, the name is Chadwick. For their voluntary co-operation, VE2HT the Asst. SCM extends his thanks to the members of the Quebec Radio Club and the Cercle des Amateurs Canadiens Francais de la T.S.F. I hear a PY calling CQ Test, see you next month. Traffic, HL 81, DR 108, KF 10, LC 121; KM 71, AG 22, HG 5, EU 8, EE 8, HT 109.

Best of Luck,
STAN. COMACH.

ONTARIO SECTION

S.C.M.—VE3SG

The Progressive Radio Club, just formed in Waterloo to serve Kitchener, Waterloo, Galt, Preston and district will fill a long-felt need. YQ's speech scrambler is working 100%. VC is having trouble with grid modulation. HX is at last getting out with HJ's half kw. ACN has parasitics of the heart at present. EE is coming back with 10's on 75 fone. ALR is still worried about neutralizing his buffer and final. AIF is still thinking. ARH has been trying to tune rig with burnt-out pilot lights in his loop; new xtal was flipped around for a few days. Imagine his embarrassment. SM is bothering super-regenerative 7 mc police receiver. HM is on 3.85 mc fone. AEK has new junior op and is trying to teach him code. IC has new rig with T20's. AQN has 2A5 osc. to a 59 plate modulated with a 53 on 1.76 mc. AAS is back on 1.75 mc with new power supply. ADE will trade a 45 TNT job for a "good" sweepstakes ticket; he wants to buy a new rig. CY is still getting out with the sky-wire down. The Ontario traffic net has sixteen stations meeting six nights a week and covers Ottawa, Moulinette, Morrisburg, Toronto, St. Catharines, Welland, Smithville, Woodstock, London, Leamington, Kingsville and Windsor. Northern Ontario amateurs interested in the formation of a traffic net please get in touch with ALT at Kirkland Lake or BB at Sandy Falls. A Toronto station is now ready to act as relay between the two nets. CP is inactive this month while getting ready for Army Signals exam. SG has 809 final

HAMMARLUND

PRECISION RADIO PRODUCTS

HAMMARLUND — One of the oldest names in radio — When you buy under this name, you buy the highest in quality and performance.

H A M M A R L U N D
Iron Core I.F.
Transformers

Ask the boys who have used them. Double your sensitivity and selectivity. Reports we have had are extremely satisfactory. Available for one or two stage amplifiers.

ICT1—Single Stage input
ICT2—Single Stage output
ICT3—Two Stage input
ICT5—Two Stage output
Any Type Net \$2.58

H A M M A R L U N D
High Frequency
Midget Condensers

Every radio part manufactured by Hammarlund is carried in our stock at all times. When you require Hammarlund — remember we have it for immediate shipment.

Extremely compact isolantite mounted midget condensers. Ideal for tuning or trimming on high frequencies. Cadmium plated soldered brass plates. Absolutely noiseless on the highest frequency. For listings, refer to our 1938 Radio catalogue.

Write for Your Free Copy of HAMMARLUND'S Complete Catalogue

CANADIAN TIRE CORPORATION LIMITED

837 - 847 YONGE ST., TORONTO

running at 55 watts in, but reports indicate that the old 46's put a stronger signal where needed on 80, yet 40 and 20 operation of the 809 is far in advance of the 46's; what can he do about it, run two separate finals? NM is building a new home, so will be to QRL for hamming for a while. AIK has new junior op. ADV is exVE4KF exG5UP for a total of 15 years. MB is having receiver trouble. NC is kept too busy to get on the air much. PE has just completed fence equipment.

AQC is new in Windsor. LG has new QTH. QK is rebuilding and collecting xtals for the new exciter. AND is on 1.75 mc fone with 3.5 watts input and says it is lots of fun. AOR reports for the Hamilton gang. PO has new location. DO has stepped out with a National 80X. GZ is on with new modulator and final. JU wants it understood that it was not the baby's bottle that he broke. WZ is selling out—why? OJ is on 56 and 3.85 mc fone. AEM is QRL University. XZ is working with 56 mc. DC is contemplating a new rig. KM worked NH mobile from Hobby Fair with no transmitting antenna. DO, NH, VZ, GZ, XZ, KM, AOR are thanked for their equipment for the Hobby Fair at Hamil-

ton Y.M.C.A. EF has new location. CD has been working Belgium on 3.5 mc with low power. UX has been working a few G's and EI's. ALH has added a 200 watt final to his rig. WW skis into Nestor Falls once a week for his mail—ye gods—and we kick if the mail man is ten minutes late getting around. OI is seriously contemplating a fone rig. ADV is dxing on 14 mc CW. KW is going back to 14 mc fone. ART is on 1.75 mc fone. AFR is busy with PP RK20's and a National 81X on 28 mc trying for elusive contacts to make W.A.C. AGG has a 203A final on 3.85 and 14 mc fone. AGM is out of town all week, so he is only able to get on at week ends. VN is rebuilding. ALU with PP T20's and an FB7 is trying hard for W.A.S. AJY is newcomer in Kirkland Lake. ALT with 47-6L6-PP T20's on 7.0 mc has 38 States, 7 Provinces and the Yukon to his credit.

Among the many splendid letters this month was one from ABW, who is now second op on the SS Cavina running between Bristol, England, and Kingston, Jamaica. GT worked 20 countries in one week-end of the DX Contest through "W" QRM, using less than 50 watts.

As this section news will be read by

all amateurs of the section, YOU are urged to send in all news to the S.C.M. at 302 Lee Ave., Toronto, Ont.

Traffic: VE3SG 150, VA 81, OI 50, TM 48, AJB 39, ALH 30, CP 29, ZE 27, WK 28, VD 20, PE 14, NM 9, SS 7, AND 6, MB 4, LI 4, DU 3, GT 2, VE9AL 20.

**B.C. SECTION
S.C.M., VE5HP**

This will announce the appointment of VE5BY as OBS and VE5OT as PAM. As this is being written the DX tests are in full swing and rumors of big doings prevail. EF, ACN, OT, BI are reported to be knocking them over in rows. NG at last got off the continent, thanks to a K6. KO surprised a KA1 who must have thought he was a W, 'cause he worked him. AC is back on the air; someone musta shown him his 242A was a dud at last. VE9AJ is back with a 100TH; may it be more virile than the RK20 whose shoes it fills. AG also has a 100TH, and him a married man too! EU moves to Oliver to work for TCA. EP skeds SW, linking Trunk Lines "I" and "F". SW, UK, and PW are good outlet for eastern traffic. PO loses antenna in recent breeze. AAA boasts of a new ACR-155; OP also has new receiver, as does DV; HR is now the new QSL manager for this section, replacing EC, who deserves a lot of thanks for the hard work he put in trying to get the boys to take the cards other fellas had sent them. BL is all burned up about the changes in the phone bands; MJ handles emergency traffic for stranded aviators, and MK and ABN relay hospital reports to isolated islands. JL, now at Ceepeecree, threatens to come on 75 meter phone soon. DR moves to Youbou and plans to join the Island Net. FW holds to his reputation for busting up the rig just before contests. HP builds rig for BR and is shining up the 250THs for the W/VE contest. CU reports from the far north; let's hear from more of the northern boys. We again remind those interested in emergency work to get in touch with AS, Emergency Coordinator for this Section.

**ALBERTA SECTION
S.C.M., VE4GE**

It is with the deepest regret that we note the passing of J. J. Crawford, son of VE4KZ. Johnny never had an amateur license, but he was one of Calgary's

best hams, always ready to do more than his share in ham activities.

ADW QRL parasitics, XF thinking of rebuilding. AKK just getting over chicken pox. FR has new rig perking. ADD finally works WAC by spearing a YV. AH admits he tried ten meter fone one day. EA sells receiver and wonders whether to build or buy. BW makes fb modulation, over-modulation with his modulation meter. No peace for 75 meter fones now. AEN threatening to instal doubler stage. HJ down on 20 meters. ZP transferred back to Edmonton again. AH going to put up rhombic for South America. LQ getting fb reports from G's and GM's on 20 meter fone. HB improves quality. SW heard again on 75 meter fone. DR QRL temporarily while moving to new QTH at Cardston. NS can't get grid modulation to work so well. ZW sporting brand new junior op. CFGP bought KK's antenna tuner, so Hubert can't get on 160 now. UY QRL work at CFGP. IN continues crusade for 210's, ably supported by AEV. ACF will join Alta.net as Q.R.S. TF talking about rebuilding relay rack style. XA gets out nicely on 20 meter fone. JP skeds his YL through LQ. GY returns to air with rig using T20's. HM pleased with new NC80X receiver. AES visited the Edmonton gang and was heard from various stations. VJ's sickness hampers his duties as editor of N.A.R.C. news. TC is another fone hound on 75 meters. LQ worked all VE districts in one evening, VE1 on 20, rest on 75. AHQ on 160 fone. AEA still interested in five meter work. Did GD get that elusive 50th country, the Edmonton gang want to know. Rumor has it that LX is returning from W-land bitten deeply by the California kilowatt bug. AEV turns Shakespeare. Who is "Professor Het-whistle Q. Fringehowl?" VE4EO will be back on air right away now from new QRA. AFT rebuilding. SL heard razzing RV about not being able to copy his code signals.

KBX CRYSTALS

We have rapidly built up a reputation not only for excellent crystals, but service and satisfaction to our customers that is unexcelled.

Ask for them at your local dealers or write direct.

K. BLEVIS LABORATORIES
263 Fairlawn Ave., Toronto 12, Ont.

CONGRATULATIONS FROM BRITISH COLUMBIA

AND OUR BEST WISHES FOR THE SUCCESS OF
THIS NEWEST RADIO PUBLICATION

As Western Canada's oldest and largest Distributors of Radio Sets, parts and accessories, and as distributors of Majestic Radio Sets, Apex Appliances, USL Batteries and Motorola Auto Sets, we feel indebted to the Radio Amateurs, who have, by and large, supported us for over 15 years.

This spring finds us with a stock of Broadcast station and Amateur supplies never before equalled by us. We believe our stock and variety to be the largest in Canada. We have to carry a tremendous stock to give OUR kind of service, because we are situated so far away from the source of supply.

We are proud to act as distributors for practically every well known quality line of Radio parts and equipment—stocking these lines in our Main Warehouse in Vancouver, also in our branch at Victoria.

Western amateurs please write for prices and list of lines carried.

Radio Sales Service Limited

780 Beatty Street
Vancouver, B.C.

943 Yates Street
Victoria, B.C.

In Memoriam

When you lose the thrill of a QSO
With a W-one or two.
When the fact that you're heard in some far
distant land
Just don't mean a thing to you.
When sending a card is a burdensome task
And a "listener's" card is taboo,
It's time you pulled switches and closed up your
shack,
For there's nothing in this game for you.
When you snub a beginner, when a "chirp" is a
crime,
And a "QRS" plea you abhor,
You had better get out of ham radio, friend,
For there's no fun for you any more.
I just love to be told "You're my first VE2,"
If he only lives over the line.
The pleasure of working a chirpy DC
Is a thrill, boy, to me anytime.
I like to "pipe down," send slow to a kid,
Sure—and tell him his keying is fine;
And when he comes out with that "Pse QSL."
Believe me, the pleasure's all mine.
If you would enjoy this old radio game,
Just pause and hark back o'er the years
When if you hooked a "seven" you thought you'd
done fine,
And to lose him just almost brought tears.
You've got to think back to your old days again
And remember that this is quite true,
You must do unto others in this amateur world
As you'd have them do unto you.
—D. R. Sheehan, VE2DG

That fine spirit which inspired the above verse has passed on. "Doc" suffered a fatal heart seizure on Feb. 7. He was one who got much from amateur radio, but gave in much greater measure. His friends were legion; every amateur has lost a real friend by his passing, and the world and ham radio are the poorer. The honor and privilege of being associated, even only ethereally, with such a prince of the air will be a memory ever green.

Why Advertise?

BECAUSE XTAL can be seen in every amateur station from Halifax to Victoria. (3424 as of Feb. 28th.)

BECAUSE XTAL is the only publication that can be seen in every Canadian amateur station.

BECAUSE XTAL offers rates that are entirely incomparable.

BECAUSE our advertisers believe their ads in XTAL will pay.

IF you think your ad. would pay—may we hear from you?

RESULTS OF THE VE CONTEST
HELD JAN. 15, 16, 17

Whether the gang didn't like this form of a contest, contests in general, or did not all notice the advice of the contest in QST, VE's during the period of the contest appeared few and far between. However, it is certain that there probably never existed for a whole week-end such poor conditions from coast to coast as prevailed that week-end. Many were heard early in the contest, but apparently gave up when conditions made contacts few and far between. In spite of this, the high scorers below should be congratulated for their perseverance and ability to pile up such nice scores.

How about another VE Contest? Would you like one? If so, may we have your suggestions? How would it be to hold one once a month for six months, trying out one band at a time? It might afford some chance for DX records to be broken over land on 56 mc; 28 mc has its points at times; 14 mc should be dandy for us to meet some of our distant VE's, and if we get a break on conditions we can do things on the three other bands. What are your suggestions? Can we not get more acquainted with our fellow VE's at a distance?

The scores are as follows—

VE3OI	324	VE3GT	81
VE3IR	306	VE5PW	83
VE5QA	255	VE3AAG	30
VE4SH	246	VE3PE	22
VE5FG	153	VE2HI	21
VE5PT	116	VE4KJ	11
VE3RN	104	VE3NM	10
VE5QP	99	VE4ADW	5
VE5UI	95	VE3ZE	5
VE5UK	86	VE5RI	3
VE5PO	85	VE3SG	2

—VE3GT

BUY, SELL OR SWAP

Commencing next month, reader advertising of radio equipment will be accepted. The rate will be 8 cents per word, except when advertising, in our judgment, is non-commercial and signed by a licensed amateur, when a rate of 4 cents per word shall apply. ARRL message count shall be used. Copy, accompanied by remittance, must be received before the 20th of the month preceding publication date.

"Since 1933 sunspots have been on the increase and can be purchased quite inexpensively." — QST, February.

Might be a good idea to get a few in the coal bin for next winter.

Real Buys!
from HAM HEADQUARTERSWE STOCK NATIONAL
NC 80X AND NC 81X
RECEIVERS

Prices on Licensed Hydro
Approved Canadian model
advanced February 15th to
\$175.00 NET.
Our SPECIAL OFFER while
present stock lasts.
NET \$137.50 CASH

SCOOP! CINAUDAGRAPH
P.M. 6 INCH SPEAKERS

This is the same speaker as
described on page 40 of our
1938 catalogue and priced at
\$4.20.
A fortunate purchase enables
us to offer these SPECIAL
AT \$2.49.

CEREMIC TRANSMITTING
COIL FORMS

There is probably the greatest
value in a coil form of
its size. Rugged and highly
glazed. Size: 5" long
2 3/4" diameter and threaded to
30 turns. Ideal for 80 to 10 meters.

SPECIAL NET 98c

TAPPED CERAMIC
SPACERS AND STAND-
OFF INSULATORS

Handy as mechanical supports,
these spacers are strong and neat in appearance.
Tapped both ends and supplied with screws and
cork washers.

No. 67—1/4" x 1 1/4"
NET 7c
No. 68—1/2" x 2"
NET 10c

CERAMIC SPACERS
Pass 8/32 screws, 1/2" long,
%" O.D.
EACH NET 05cNEW ARRIVALS IN
RAYTHEON TUBES
RK-11—NET PRICE \$3.65
R-K 12—NET PRICE 3.65

We stock all popular
Raytheon tubes.
See our catalogue for
other types.

PANELS AND CHASSIS
PUNCHED AND DRILLED
We have complete facilities
for handling this work and
can offer you prompt service
at a reasonable cost.JUST RELEASED!
TAYLOR TRANSMIT-
TING TUBES
T-40, NET PRICE \$5.10
TZ-40, NET PRICE 5.10

Don't forget "Wholesale Radio"
meets all price competition.
If you did not receive our 1938
CATALOGUE, write for your
FREE COPY!

R E M A R K A B L E
V A L U E !
W.E. 211-D TUBES
Manufactured for radio
use. Ideal for 40, 80
meter rigs and fine for
modulators.
SPECIAL NET \$1.98

CLOSE - OUT
SPECIALS!

Order Now
Quantities Limited

JEFFERSON MODULATION
OUTPUT TRANSFORMERS
For Class B PP 838, 03A,
805, 50T, etc. 8000 to 2500
or 10,000 ohm. Reg. Net
\$15. SPECIAL NET \$11.95

JEFFERSON FILTER
CHOKE
30 Henry 150 M.A. mounted
in Chromium case. Heavy
duty terminals. Reg. Net
\$4.80. SPECIAL NET \$2.95

2 1/2 M.H. R.F. CHOKE
The most popular R.F. Choke
offered to-day.
SPECIAL NET 19c

HIGH VOLTAGE
CORNELL-DUBILIER
OIL-FILLED CONDENSERS
Ideal for that high power
rig!

2 MFD, 4000 volt working.
Reg. Price \$23.50
SPECIAL NET \$14.95
4 MFD, 3000 volt working.
Reg. Price \$18.50
SPECIAL NET \$12.75

4 MFD. 600 VOLT
WORKING PAPER
CONDENSERS
Round can type with screw
terminals

SPECIAL NET 49c

S.P.D.T. LIGHTNING
SWITCH
Heavy duty lightning switch
for that transmitting antenna.
SPECIAL NET 39c

6 PRONG PLUG-IN COIL
FORMS
A full size bakelite coil form
1 1/2" diameter, 3" long, ex-
clusive of prongs.
Reg. Net. 21c
SPECIAL NET 15c

FLERON STAND-OFF
INSULATOR
Similar to the Johnson type
20 in appearance. Size 1 1/4"
high (body 1-5/16") Reg.
Net. 12c.
SPECIAL NET 7c
PER DOZEN NET 69c

WHOLESALE RADIO CO. LIMITED
1133-37 BAY ST. — VE3XB — TORONTO